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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/944,593	08/31/2001	Ping Xie	15436.249.1.2.1	1721

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EXAMINER

FINEMAN, LEE A

ART UNIT PAPER NUMBER

2872

DATE MAILED: 11/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/944,593

Applicant(s)

XIE ET AL.

Examiner

Lee Fineman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 41-47 and 50-64 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 41-47 and 50-64 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 21 July 2003 has been entered. Claims 41, 45-46, 50, 53, 54 and 59 were amended and claim 64 was added. Claims 41-47 and 50-64 are pending.

Claim Objections

1. Claim 41-45 and 51 are objected to because of the following informalities:

In claim 41, line 18, "passing the a second optical beam" is grammatically incorrect. The examiner suggests --passing the second optical beam--. The dependent claims inherit the deficiencies of the claims from which they depend.

In claim 51, line 3, the dash between "pair" and "of" should be removed.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 41-45 and 64 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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Claim 41 recites the limitations "passing a first optical beam from the first optical port to the second optical port, wherein the first optical beam enters at an angle such that the first optical beam diverges from the longitudinal axis" and "passing a second optical beam from the second optical port to the third optical port, wherein the second optical beam enters aligned with the longitudinal axis." It is unclear where or what the optical beams enter. Is the limitation when the beams are entering the entire system or a specific element like the imaging element, the beam displacer or the beam angle turner? The dependent claims inherit the deficiencies of the claims from which they depend.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. Claims 41-47 and 50-64 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 8, 14, and 33 of U.S. Patent 6,049,426. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the instant application are merely broader than or an obvious variation of

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the claims of U.S. Patent 6,049,426. The method of utilizing the structure of the claim is inherent therein.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 46-47 are rejected under 35 U.S.C. 102(b) as being anticipated by Shirasaki, U.S. Patent 5,982,539.

Shirasaki discloses a method of transmitting an optical beam (fig. 2) comprising passing a first optical beam (dashed lines) through a nonreciprocal optical device (fig. 2) comprising a first beam angle turner (first birefringent wedges, figs. 7C, 7D, 8A, 8B), which are a pair of birefringent wedges, and a second beam angle turner (second birefringent wedges, figs. 7C, 7D, 8A, 8B), which are a pair of birefringent wedges, and a complete gap (figs. 7C, 7D, 8A, 8B), wherein both an e-ray and an o-ray of the first optical beam propagate through both the first beam angle turner and the second beam angle turner and the complete gap (fig 2, column 10, lines 7-13); passing a second optical beam that is separated from the first optical beam by a distance through the nonreciprocal optical device (fig. 3A – first optical beam, fig. 3B – second optical beam) wherein the second optical beam passes through the first beam angle turner, the

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second beam angle turner, and the complete gap (fig. 2), wherein adjusting the complete gap adjusts the distance between the first optical beam and the second optical beam (in so far as inherently at least during manufacture and assembly of the optical circulator, the first birefringent wedges and the second birefringent wedges are placed and adjusted to achieve alignment of the elements which therefore includes a corresponding adjustment in spatial separation or distance between the first and second optical beam); and wherein any polarization rotators of which the nonreciprocal optical device is comprised are nonreciprocal polarization rotators (107-1, 107-2).

7. Claim 50 is rejected under 35 U.S.C. 102(e) as being anticipated by Liu et al., U.S. Patent No. 6,438,278 B1.

Liu et al. disclose an optical circulator (fig. 4b but see fig. 3 for element numbers) comprising a first end (left side of drawing) having a first optical port (1) and a third optical port (3) and a second end (right side of drawing) having a second optical port (2) wherein a first optical beam (fig. 3a) received through the first optical port and traveling to the second optical port is separated into an e-ray and an o-ray by a first beam splitter (16 & 62, walk-off crystal with an angled side) and wherein the e-ray and o-ray are diverging from a longitudinal axis (dashed line) of the nonreciprocal optical device (fig. 4b); a first beam angle turner and a second beam angle turner (fig. 4b, walk-off crystals with an angled side (16 & 62, 38 & 64)) wherein both the e-ray and the o-ray of the optical beam propagate through both the first beam angle turner and the second beam angle turner wherein the first angle beam turner turns the e-ray and o-ray toward the longitudinal axis (fig. 4b) and wherein the second beam angle turner aligns the

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e-ray and the o-ray with the second optical port (2); a beam combiner (38 & 64, walk-off crystal with an angled side) the recombines the e-ray and the o-ray into the first optical beam; and wherein any polarization rotators (18, 34) of which the nonreciprocal optical device is comprised are nonreciprocal polarization rotators (column 1, line 67-column 2, line 1).

Response to Arguments

8. Applicant's arguments with respect to claim 50 have been considered but are moot in view of the new ground(s) of rejection.

9. Applicant's arguments filed 21 July 2003 have been fully considered but they are not persuasive.

Regarding claims 46-47, applicant argues that Shirasaki lacks that adjusting the complete gap adjusts the distance between the first and second optical beams. The examiner respectfully disagrees. Shirasaki discloses this feature in so far as inherently at least during manufacture and assembly of the optical circulator, the first birefringent wedges and the second birefringent wedges are placed and adjusted to achieve alignment of the elements which therefore includes a corresponding adjustment in spatial separation or distance between the first and second optical beam.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lee Fineman whose telephone number is (703) 305-5414. The examiner can normally be reached on Monday - Friday 7:30 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on (703) 305-0024. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4900.

LAF

LAF
October 27, 2003


MARK A. ROBINSON
PRIMARY EXAMINER